A REPORT BY
THE SECTOR TASK FORCE ON

THE CANADIAN CEMENT AND CONCRETE INDUSTRY

Chairman R. H. Keeler

REPORT OF TASK FORCE

FOR

THE CANADIAN CEMENT AND CONCRETE INDUSTRY

July 14, 1978

ST. MARYS CEMENT LIMITED
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August 3, 1978

The Honourable Jack H. Horner,
Minister,
Industry, Trade and Commerce,
OTTAWA, Canada,
K1A 0H5

Dear Mr. Horner:

As chairman of the Consultative Task Force for the cement and concrete industry, I am pleased to enclose the committee's report which succinctly makes very specific recommendations for immediate action by the Government.

In my view, the committee undertook the task enthusiastically and in a very positive manner. Indeed, they were responding as concerned Canadians. However, subsequent to the completion of the Task Force report, the union representative for the Canadian Labour Congress submitted a dissenting report expressing opinions which in many respects were diametrically opposed to the consensus which had been reached by the committee. In my opinion, it was highly inappropriate at this late date to incorporate these opinions in the report when there was no opportunity for further discussion by the Task Force committee.

We are hopeful that tangible benefits will result from the 23 Task Force reports, and I am sure that Canadian Industry is prepared to participate in this type of dialogue in the future.

Yours very truly,

R. H. Keeler,
President.

RHK:nd

THE CEMENT AND CONCRETE INDUSTRY CONSULTATIVE TASK FORCE

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REPORT OF TASK FORCE

FOR

THE CANADIAN CEMENT AND CONCRETE INDUSTRY

The Canadian cement and concrete industry is pleased to have the opportunity to participate in this consultative task force program sponsored by the Department of Industry, Trade and Commerce following the First Ministers' Conference early in 1978. As input to an overall strategy for Canada to improve its economic position in the near term, the Canadian cement and concrete industry has set out in the following report very specific recommendations for action by all levels of government. Due to time constraints and the fact that 23 sector reports must be distilled into one overall strategy report, the Task Force is commenting only on pressing major issues.

The recommendations which follow represent a consensus of those who participated in the discussions and who corresponded on the content of the report. Unfortunately, the representative for the Canadian Labour Congress has been unable to participate beyond attending one meeting. This is indeed regrettable as his input to the Task Force would have been welcome.

INDUSTRY SUMMARY

As set out in some detail in the attached industry report prepared by the Department of Industry, Trade and Commerce, the Canadian cement and concrete industry is considered modern and efficient in international terms and, in addition to having an excellent capability to service domestic markets, is well positioned to participate in export opportunities, particularly with the United States. The earnings of the cement producers in recent years are considered to be generally satisfactory, but, as noted in the attached report, the industry, in modernizing its facilities, is now carrying a substantial debt structure. There is obviously a continuing need to maintain profitability in the cement industry to provide the large cash flows required for debt retirement and for further capital investment to maintain a strong competitive position.

GOVERNMENT FINANCE

The Task Force was unanimous that the single most important contribution to improve the competitive position of Canadian industry must come from governments, federal, provincial and municipal, by reducing the public sector's spending as a percentage of Gross National Product. The return to balanced budgets, on the average over a period of several years, is essential to providing the right economic climate for future growth. We are encouraged by the apparent shift in emphasis by governments to co-operate with business and stimulate investment, but this must be a basic change for the long-term and not a short-term accommodation resulting from government deficits. The determination to attain balanced budgets, to control costs, and to eliminate departments or programs which have become redundant is unfortunately seldom found in senior government officials, elected or appointed; cost cutting admittedly is difficult and unpopular, but it must be done. As one member of our Task Force so vividly stated, "When we say cut costs, we mean CUT, as opposed to a reduction in the rate of growth of spending."

To achieve the necessary cuts in government expenditure, action is needed to reduce overlapping of functions by the three levels of government. This should be supplemented by co-ordination of taxation by the three levels; each government level, preoccupied with its own affairs, is often unaware of the total tax burden faced by business firms.

To achieve a sound industrial base, governments must create a climate favourable to investment by a firm posture of fiscal responsibility, by the reduction of a serious inflation, by the removal of economic uncertainty, and, in our view, by less government intervention in the affairs of business. This posture would be in recognition of the fact that it is industry, and not government, that can provide the impetus for economic growth and the means by which high levels of employment can be met.

Corporate Income Tax

Broadly speaking, the Task Force felt that the corporate tax structure was competitive and workable, and should not be changed significantly at this time.

Capital cost allowances generally are considered satisfactory, but the allowances for buildings at five per cent per annum do not recognize the effect of inflation, and it is recommended that the rate be adjusted to 10 per cent.

The Task Force concurs with other resource industry task forces that pollution control facilities are not revenue-producing assets, but in fact result in increased operating costs. The resource industries have in common many operating and financial conditions. It is recommended that pollution control assets be granted a higher rate of investment tax credit than that available on production machinery and equipment.

The present five per cent investment tax credit on eligible assets actually works out to two to three per cent as the amount of the tax credit reduces the capital cost of the asset for purposes of tax calculation. To encourage plant investment in Canada, the rate must be at least equal to the corresponding provision in the United States. The Task Force recommends an improvement in the effective rate to stimulate investment and, to ensure that the credits are fully utilized, there should be generous carry-back and carry-forward provisions for unused credits.

Recognizing that the clock cannot be turned back, and that new sources of tax revenue are seldom reversed, the Task Force nevertheless supports a comment in the report of the Commission on Corporate Concentration with respect to capital gains taxes:

> "In exchange for a relatively small sum in tax revenue and a partial move toward more equity, Canada's tax system was made much more complex and expensive to operate. The question is, was it worth it? We do not think so."

In the opinion of the Task Force, the capital gains legislation has introduced a significant complexity to Canadian business, and to the Canadian people, with little or no benefit. With the present rate of inflation, the capital gains tax often results in a tax on capital and not on real gain.

The Task Force recommends the elimination of capital gains taxes.

Personal Income Tax

With regard to personal taxation in Canada, the Task Force concludes that compared with the United States, Canada does not provide sufficient incentive in its tax rates to stimulate the entrepreneur or to retain highly specialized industrial personnel in this country. As a further consequence, Canada will continue to be in danger of losing the great talents of young university graduates to the United States.

The Task Force concurs with the Committee on Corporate Concentration that individual Canadians, as a result of the impact of high taxation of personal income and capital gains, are increasingly diverting their savings into tax shelters such as pension plans and registered retirement savings plans rather than into new equity investment which is so badly needed for economic growth.

It is recommended that the total personal income tax rate should not exceed 50 per cent.

The Task Force recommends allowance of mortgage interest payments as a deduction for personal income tax. It is recognized that the introduction of interest as a personal tax deduction will result in reduced tax revenues, but the tax change can be phased in gradually over several years. The benefits would be threefold:

- For young families establishing a home, it would represent an incentive to save

and continue to invest in a private residence, and it would also provide the social benefits associated with community and home ownership.

- For the country as a whole, it would provide a stimulus to a whole new market in the use of replacement mortgage money to renovate existing private residences, including the replacement of household durable goods.

- For the construction industry, the suppliers of material to the construction industry, and for the suppliers of durable goods (stoves, refrigerators, carpets), it would provide a more stable market than that experienced with the cycles of new housing construction.

Sales Taxes

The cement and concrete industry concurs with the construction industry and other industry sectors that sales taxes on construction materials and equipment generally place a heavy impost on the cost of construction in Canada, over and above the indisputable effect of climate and a short construction season. High initial construction costs are a critical factor in investment location decisions and should be reduced whenever possible in the interest of maintaining a competitive position with the United States.

In effect, sales taxes on construction materials and equipment represent a tax on capital.

The Cement and Concrete Industry Task Force recommends that all construction materials and equipment should be exempt from sales taxes.

This exemption would lower the cost of shelter, and of investment in new plant, and would therefore both stimulate construction of dwellings and improve the competitive standing of Canadian industry.

PROVINCIAL - MUNICIPAL ASSESSMENT LEGISLATION

In addition to federal and provincial corporate taxes, municipal taxes have also increased substantially in recent years and now represent a significant cost to industry.

As a result of assessment practices in many provinces, pollution abatement equipment can be subject to municipal taxes. As mentioned in the comments on corporate income tax, pollution abatement equipment is not a revenue-producing asset. Examples of such equipment in the cement industry are structures enclosing dust precipitators, covered clinker storage halls, covered clinker conveyors, and enclosed conveyor transfer towers.

The Task Force recommends that all structures associated with pollution abatement be considered exempt equipment for assessment purposes, and thus not subject to municipal tax.

ENVIRONMENT

The genuine and informed social concerns for the environment, as expressed by the public of Canada are shared by the cement and concrete industry. However, governments must recognize that substantial sums of money are required by industry to effect change, and that for industry to remain competitive change must come slowly.

In the opinion of the Cement and Concrete Industry Task Force, the federal government guidelines for environmental protection are realistic and serve as excellent guidelines for the provinces. The industry can work within the present federal guidelines. However, it would not welcome any further changes in the Environmental Protection Guidelines without co-operative consultation as was done in the initial instance of development. Radical changes would upset the economic stability of the entire industry. More restrictive guidelines could be far more costly than the cost of compliance with the present guidelines and the additional cost of more restrictive guidelines could well outweight the benefits.

The committee would also recommend that more co-operation between various levels of government on environmental protection is needed and desirable.

TRADE AND TARIFFS

Unlike most other industrial products, and probably due to the high weight, low value aspect of cement and concrete, tariffs have not been a major trading factor for the industry in recent years. Under normal economic conditions, the products are not shipped a great distance.

It is the opinion of the Task Force that a total free trade stance should be adopted for all cement and concrete products.

COMPETITION ACT

Many representations have been made to federal government departments and committees about Bill C-13 and its forerunner, Bill C-42 "Competition Policy Phase II", and the proposed legislation has been broadly condemned in some of these representations. This Task Force believes that there should be a general moratorium on government intervention in business and that a significant step in this direction would result from the complete withdrawal of Bill C-13. With the broad stagnation and high level of unemployment currently evident in our economy, the thrust of government should be to aid business rather than impose additional restraints and regulations.

There are a number of proposals in Bill C-13 which, if implemented, would cause substantial disruption to the cement, concrete and aggregate industries. The attempt to legislate pricing and delivery policies is particularly objectionable; the Task Force feels very strongly that these important matters should be determined in the marketplace and not by government. The bill could be elaborated upon in detail but another lengthy critique would be, for the most part, only a repetition of what has already been said. However, this Task Force wishes to go on record as giving broad support to the representations made by the Canadian Construction Association to the House of Commons Standing Committee on Finance, Trade and Economic Affairs and the Senate Committee on Banking, Trade and Commerce.

REGIONAL DEVELOPMENT

The Task Force recognizes that in a number of areas in Canada the Department of Regional Economic Expansion (DREE) has provided excellent infrastructure for industrial development, such as roads, harbours, dock facilities and industrial parks. In the opinion of the Task Force, this work should continue as the main function of DREE.

On the other hand, the DREE program of grants to companies is not believed to be constructive. From across Canada, Task Force members cited situations where the DREE subsidization of private enterprises resulted in the disruption of normal markets, and in some cases the shutdown of competing enterprises. A fundamental difficulty is that those who are administering a program of grants cannot be familiar with the industries in a business management context, and they cannot be truly knowledgeable about local market conditions.

The Task Force recommends that the program of giving DREE grants to companies should be stopped. The Task Force is of the opinion that, in most cases, entrepreneurs who seek financing for valid business purposes are usually accommodated by the commercial banks.

The Task Force recommends the use of income tax incentives as a more appropriate and effective means of stimulating regional development.

INDUSTRIAL RELATIONS

The recent history in the collective bargaining process of the cement and concrete industry suggests that, while significant progress has been made, further progress can and must be made. To many, the constant adversary position is wasteful of time and energy.

The Task Force emphasizes the need for improved apprenticeship training. Government programs should encourage the upgrading of skills.

No doubt, with all the task forces, discussions on training were not complete without detailed comments on the Unemployment Insurance program. The Task Force commends the government for tightening the administration of the program but feels that the government must continue to improve management control particularly to eliminate abuse of the system.

Consideration of the relative benefits of Unemployment Insurance and of Workmen's Compensation have led to the conclusion that this is another area where the two senior levels of government should co-ordinate programs.

It is recognized that the principles underlying the Workmen's Compensation Board (W.C.B.) are desirable, and that most injury cases supported by W.C.B. are genuine. It is also apparent, however, that the cost of operating the W.C.B. system has become so high that it has become a detrimental factor in the competitive standing of Canadian industry. These high costs are caused, in part, by the ease of collection by the worker on what appear to be questionable claims in some cases. This benefit is not subject to income tax.

The social attitude of many private doctors further aggravates the situation as they often actively encourage employees to take time off for minor injuries which should not be judged to be lost time accidents.

It is recommended:

1. W.C.B. benefits should be subject to personal income tax.

2. The employees of firms which have W.C.B. premium payments significantly above the norm should be required to pay part of the cost of W.C.B. coverage. Employees must be made acutely aware of the cost of accidents.

3. W.C.B. should impress on the medical doctors conducting examinations the need to be more objective. Unduly lenient judgements in favour of a claimant undermine the credibility of the whole W.C.B. concept.

TRANSPORTATION

A particular problem in the regulation of trucking rates is of concern to the Task Force. It is our understanding that changes are contemplated in the Maritime Freight Rate Act and the Atlantic Region Freight Assistant Act (Atlantic Provinces Special Selective and Provisional Assistance Regulations) whereby certain products will eventually not be eligible for the transportation subsidy now in effect, whereas other products will retain this benefit. In particular, we note that the subsidy will be eliminated on concrete products whereas competitive products manufactured from other materials, such as steel and plastic, will continue to be eligible.

It is the opinion of this Task Force that where subsidies are applied they should be on an equitable basis for competing products.

SECTOR PROFILE

THE CANADIAN CEMENT AND CONCRETE INDUSTRY

The following profile of the Canadian Cement and Concrete Industry was developed by the Sector Task Force on the Canadian Cement and Concrete Industry from a profile prepared by the federal Department of Industry, Trade and Commerce.

THE CANADIAN CEMENT AND CONCRETE INDUSTRY

INTRODUCTION

The cement and concrete industry is taken to include the manufacture of portland cement, ready-mix concrete, concrete products[1] and aggregate[2] by the major vertically integrated companies in this industry sector.

Other companies in the sector include some smaller cement companies and a large number of small producers of concrete products, ready-mix or aggregate.

INDUSTRY STRUCTURE

The value of output of the sector in 1975 was as follows:

Portland cement	$330 million
Sand, gravel, crushed stone	508
Ready-mix	501[3]
Precast architectural and structural shapes	157[3]
Block, brick, pipe and other	271[3]
Total	$1,767 million

The major vertically integrated companies — Canada Cement Lafarge, St. Lawrence Cement and Genstar — had annual sales of $200 to $400 million each (cement and concrete products only). St. Mary's Cement had annual sales of about $75 million; Lake Ontario Cement about $40 million; while the smallest cement companies, Ciment Québec and North Star Cement, probably had sales of approximately $10 and $4 million, respectively. Most of the cement companies have subsidiary ready-mix companies and some have products and aggregate companies.

About 1,000 business establishments produce ready-mix concrete, concrete products or aggregate, more than half of which have fewer than 20 employees.

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[1]Precast architectural and structural shapes, block, brick and pipe.

[2]Sand, gravel, crushed stone.

[3]Double-counting of cement and aggregate values in these figures is known to exist, but the extent has not been determined.

Overall employment in 1975 was 32,000. The long term trend is for the number of establishments to decline and for the total employment and production to increase.

Distribution of employment in 1975 was as follows:

1975 — Employees

	Cement	*Concrete products*	*Sand and gravel*	*Crushed stone*	*Ready-mix*
Newfoundland	x	x	x	x	190
Prince Edward Island	0	x	x	x	0
Nova Scotia	x	x	136	x	187
New Brunswick	x	373	x	x	152
Quebec	1725	3347	288	x	2193
Ontario	1310	4736	1777	x	3086
Manitoba	x	473	132	x	426
Saskatchewan	x	256	x	x	415
Alberta	x	933	254	x	1185
British Columbia	x	639	191	x	1707
Yukon and Northwest Territories	0	0	x		0
Total	4577	11201	2838	3544	9541

x ... data not disclosed by STATSCAN

Vertical integration is a significant feature of this sector. The five largest cement companies own or control an undisclosed number of ready-mix, concrete and aggregate business establishments, estimated at 30 per cent of the total number of establishments with perhaps 60 per cent of the value of output. This integration is concentrated in the metropolitan areas and the larger business establishments. Independent producers of ready-mix and concrete products are typically smaller producers in the large cities, or medium to small producers in smaller centres. In contrast, a number of large producers of aggregate are not integrated with other businesses.

A special case is that of Revelstoke Companies Limited*, a building supply firm in the three western provinces which has acquired 19 ready-mix establishments during the past few years, all in small centres.

Vertical integration in the sector began about 1958 with the cement companies buying out their largest customers, ready-mix companies, to protect their shares of the cement market. Since ready-mix concrete consumes about 70 per cent of Canada's portland cement, there has been a large incentive for this integration step. The concrete products industry is a smaller consumer of cement and consequently there has been less vertical integration there. Other acquisitions or expansions have been in the trucking business and in aggregate production to control major cost elements. For example, from the standpoint of ready-mix or concrete products manufacturers, the cost of aggregate ranges from 11 to 22 per cent of the total cost of materials. In a more extreme example, the cost of transporting aggregate by truck may range from 30 to 100 per cent of the sum of other costs.

In the case of aggregate, while some producers are affiliated with the cement and concrete sector, an important number of companies are primarily concerned with aggregate for other purposes such as road-building, bases for building foundations and railroad ballast. Concrete accounts for only about 20 per cent of the aggregate supplied for all construction purposes. Aggregate and concrete production are therefore connected to an important extent, but there are many producers of aggregate to whom demand from the concrete industry is incidental. An example is Ashland Oil Company, which has extensive aggregate reserves and production capacity near Canadian metropolitan centres, but is interested primarily in the construction of asphalt roads.

* Revelstoke Companies Limited is a Canadian controlled company with shares traded on the Toronto Stock Exchange.

Another prominent feature of the cement and concrete industry is the degree of foreign ownership. The three largest companies are foreign-owned to various extents as given below:

Canada Cement Lafarge		
—Ciments Lafarge (France)		54%
Genstar*		
—Société Générale de Belgique (Belgium)	20	
—Associated International Portland Cement (Britain)	11	
—Other European investors, est.	20	
—U.S. investors, est.	5	
—Total		56%
St. Lawrence Cement		
—Holderbank (Switzerland)		49%

It would be apparent that most of the remaining shares are traded on public stock exchanges. These three corporations have 70 to 80 per cent of the Canadian cement market.

The other cement companies are Canadian-owned, as follows:

St. Mary's Cement	—Rogers and Lind families
Lake Ontario Cement	—Denison Mines (54%)
	—balance, traded on public stock exchanges
Ciment Québec	—several Quebec individuals
North Star Cement	—Government of Newfoundland, and Lundrigan's Ltd.

SCALE, GEOGRAPHICAL DISTRIBUTION

A. Portland Cement

Production plants in districts of high market concentration range in annual capacity from 700,000 to 1,750,000 net tons; these units are large and efficient by world standards. In regions of small market demand plants are of a size suited to the local market and range from 175,000 to 700,000 net tons per annum. Each region of Canada has one or more cement plants, as shown below. Transportation cost is high relative to the f.o.b.-plant value of cement, and is a significant factor in determining the location and size of cement plants.

Company	*Plant*	*Plant Capacity '000 tons/yr.*
Canada Cement Lafarge Ltd.	Brookfield, N.S.	262
Canada Cement Lafarge Ltd.	Havelock, N.B.	450
North Star Cement Ltd.	Corner Brook, Nfld.	175
Canada Cement Lafarge Ltd.	St. Constant, Quebec	1,025
St. Lawrence Cement Company	Joliette, Quebec	1,200
Ciment Québec Inc.	St. Basile, Quebec	380
Miron Company Ltd. (Genstar)	Montreal, Quebec	1,050
St. Lawrence Cement Company	Villeneuve, Quebec	788
Canada Cement Lafarge Ltd.	Bath, Ontario	1,100
Canada Cement Lafarge Ltd.	Woodstock, Ontario	595
Lake Ontario Cement Co.	Picton, Ontario	1,600
St. Mary's Cement Co. Ltd.	Bowmanville, Ontario	700
St. Mary's Cement Co. Ltd.	St. Mary's, Ontario	743
St. Lawrence Cement Company	Mississauga, Ontario	1,800
Canada Cement Lafarge Ltd.	Fort Whyte, Manitoba	630
Canada Cement Lafarge Ltd.	Exshaw, Alberta	800
Inland Cement Industries Ltd. (Genstar)	Winnipeg, Manitoba	350
Inland Cement Industries Ltd. (Genstar)	Regina, Saskatchewan	228
Inland Cement Industries Ltd. (Genstar)	Edmonton, Alberta	578
Canada Cement Lafarge Ltd.	Kamloops, B.C.	210
Canada Cement Lafarge Ltd.	Richmond, B.C.	613
Ocean Cement Ltd. (Genstar)	Bamberton, B.C.	700
	Total Capacity	15,977

** Genstar has recently been declared by FIRA not to be a "non-eligible person" for the purpose of its act.*

Investment requirement for portland cement production is in the order of $100 per annual ton of capacity. For example, a 1 million tons per year plant would represent an investment of about $100 million.

B. Ready-Mix Concrete

In metropolitan areas a typical ready-mix fleet would include 40 to 60 trucks, with central mixing plant and storage facilities to suit. Rural operations may be profitable down to the level of a six-truck operation. A ready-mix plant for 25 trucks would require an investment of $800,000 for the central plant and yard, plus $50,000 to $60,000 per truck. Most populated districts in Canada are served by ready-mix operators.

Because of the high cost of transportation relative to f.o.b.-plant value, ready-mix is not often delivered more than about 30 miles. In a concentrated market such as Toronto, where competition can severely limit selling price, the most profitable shipping distance is further decreased. In such areas, large ready-mix companies may own several plants a few miles from one another in order to maintain simultaneously market share and short average shipping distances. This situation may limit the scale of operation of any one plant. The relationship between profit and plant size is obscured by other factors such as shipping distances and local selling prices.

Plant sizes in 1975 were distributed as follows.

No. of employees	*No. of plants*
0- 4	46
5- 9	74
10- 19	102
20- 49	90
50- 99	31
100-199	10
200-499	3

C. Concrete Products

Concrete block, brick and sewer pipe are the mass-produced goods of the concrete industry with plants located throughout Canada. In the block and brick sector a profitable business may be established with just one production machine and its auxiliary equipment, larger plants being not much more than multiples of this. A typical automated block plant with one machine would require a capital investment of $2 million and would employ about 20 people. Concrete blocks are produced for a local market primarily because of the high cost of transportation compared to the ex-plant value of the goods.

The manufacture of pressure-pipe for water mains requires more demanding technology and value is higher. There are four such plants in Canada, one in Montreal, two near Toronto and a small one near Calgary.

Architectural products are to a large degree custom-designed for each building application, prime qualities being attractive appearance, durability with little maintenance and low cost. New, small firms can enter and leave this industry easily, since technology is simple and capital investment requirement is low. In contrast, precast-prestressed structural components feature high strength, light weight, structural integrity and sometimes pleasing appearance. Design, production and installation require the attention of experienced engineers and supervisors. A production plant would typically have about 50 to 100 employees. There are only one or two prestressed plants and one to four architectural precast plants in each metropolitan district of Canada. Products are sold mainly in the immediate area, but are known to have been shipped several hundred kilometres to less industrialized districts.

Some specialization exists in the prestressed concrete industry: two plants produce concrete railway ties; several plants concentrate on floor slabs; a few plants make primarily lighting and utilities poles.

D. Aggregate

There are roughly 300 establishments producing aggregate, employing more than 5,000 people while trucking accounts for an additional 6,000 man-years, approximately. Shipments are estimated to be worth $300 million f.o.b.-plant, or about $500 million delivered. In addition to the above, shipments of aggregate valued at $200 million f.o.b.-plant were made by establishments classified in other industry sectors.

The size range of aggregate plants is 20,000 to 4,000,000 tons per year. The activity is capital intensive, using heavy equipment for handling, loading, crushing, screening, stockpiling and transportation. Under some local conditions the minimum economic size is not large and total investment may range from a few hundred thousand up to several million dollars. For example, in 1975 Genstar developed two new gravel plants in British Columbia at a total cost of $17 million. Technology is not a constraint on new entrants.

All districts of Canada are served by local pits and quarries. Due to the high cost of transportation in relation to production cost, delivery distance seldom exceeds 30 miles.

Aggregate of suitable characteristics for use in concrete is available in most districts. In Toronto, London, Ottawa, Cornwall and Vancouver additional costs are incurred because of problems such as loss of deposits through zoning restrictions or poor quality of nearby deposits. These problems of zoning restrictions are well known to and under study by the provinces and municipalities which are seeking solutions. The area is clearly a matter of provincial responsibility.

MARKET CHARACTERISTICS

Demand

The cement and concrete industry is dependent primarily on the demand for new construction and its role is parallel to that of the structural steel industry. However, while steel producers have additional markets in the automotive, appliance, shipbuilding, machinery and other sectors, the cement and

CANADA, CEMENT PRODUCTION RELATED TO VALUE OF CONSTRUCTION AND TO GNP

Year	Cement Shipments	Value of Cement Production	Value of Construction		Cement Production, Tons per '00 $ of Construction		Value of Cement, Production per $'000 of Construction	GNP		Cement Production Tons per $ million GNP	
	'000 tons	($) '000	(current Millions $)	(1961 constant Millions $)	(current $)	(1961 $)	(current $)	(current $ million)	(1961 constant $ million)	(current $)	(1961 $)
1950	2,937	35,894	2,728	3,584	1.08	0.82	13.16	18,006	–	163	–
1951	2,984	40,446	3,661	4,343	0.81	0.69	13.51	21,640	25,673	138	116
1952	3,249	48,059	4,199	4,776	0.77	0.68	11.45	24,588	27,968	132	116
1953	3,901	58,842	4,595	5,231	0.85	0.75	12.81	25,833	29,408	151	133
1954	3,936	59,036	4,723	5,294	0.83	0.74	12.50	25,918	29,047	152	136
1955		65,650	5,311	5,917	0.83	0.75	12.36	28,528	31,788	155	139
1956	5,022	75,233	6,382	6,863	0.79	0.73	11.79	32,058	34,474	157	146
1957	6,049	93,167	7,023	7,394	0.86	0.82	13.27	33,513	35,283	181	171
1958	6,153	96,414	7,092	7,362	0.87	0.84	13.59	34,777	36,098	177	170
1959	6,284	95,148	7,077	7,197	0.89	0.87	13.44	36,846	37,470	171	168
1960	5,787	93,261	6,886	6,921	0.84	0.84	13.54	38,359	38,553	151	150
1961	6,206	103,924	6,974	6,974	0.89	0.89	14.90	39,646	39,646	157	157
1962	6,879	113,234	7,296	7,198	0.94	0.96	15.52	42,927	42,349	160	162
1963	7,014	118,615	7,716	7,473	0.91	0.94	15.37	45,978	44,531	153	158
1964	7,847	130,704	8,634	8,160	0.91	0.96	15.14	50,280	47,519	156	165
1965	8,428	142,523	9,868	9,034	0.85	0.93	14.44	55,364	50,685	152	166
1966	8,931	156,301	11,238	9,852	0.79	0.91	13.91	61,828	54,207	144	165
1967	7,995	143,150	11,594	9,780	0.69	0.82	12.35	66,409	56,016	120	143
1968	8,165	152,004	12,214	9,977	0.67	0.82	12.45	72,586	59,292	112	138
1969	8,250	162,091	13,207	10,328	0.62	0.80	12.27	79,815	62,448	103	132
1970	7,946	156,194	13,781	10,312	0.58	0.77	11.33	85,685	64,014	93	124
1971	9,076	183,368	15,865	10,755	0.57	0.84	11.56	93,462	67,585	97	134
1972	10,039	210,685	17,289	11,018	0.58	0.91	12.19	103,952	71,515	97	140
1973	11,364	242,505	20,174	11,963	0.55	0.93	11.92	120,438	76,345	92	146
1974	11,668	281,958	24,215	12,614	0.47	0.91	11.34	140,880	79,199	81	145
1975	10,714	265,283	27,249	13,902	0.39	0.77	9.76	154,752	78,957	70	136

concrete industry relies solely on construction. This relationship results in greater fluctuations in demand than that experienced by the steel industry. The dependence of the cement industry on the level of activity in the construction industry is demonstrated in part by the preceding table.

The variations in rate of new construction, being both seasonal and sensitive to the business cycle, are of course well known to the construction industry. In an important way, however, these variations have a more severe impact on a firm in the cement and concrete industry than on one in the construction industry. Cement and concrete production requires large, fixed investments; construction activity requires relatively little. During times of slow demand for new construction, cement and concrete companies are under severe financial pressure to maintain a high production rate, whereas construction firms can simply cut back activity with very little overhead penalty. The volatility of demand has been particularly severe in the province of Quebec where production levels dropped to as low as 44 per cent of capacity in 1971. Variations in Canadian production rate of portland cement are shown in the table below, which illustrates both seasonal and cyclic effects.

MONTHLY PRODUCTION OF PORTLAND CEMENT

	Thousands of Tons per Month						
	1971	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*
Jan.	372	468	548	564	501	451	424
Feb.	376	485	543	618	509	529	450
Mar.	461	509	736	730	657	633	632
April	603	629	745	840	706	774	757
May	843	909	1,006	973	992	1,110	1,084
June	915	1,005	1,078	1,130	1,128	1,124	1,197
July	991	1,035	1,139	1,140	1,123	1,111	1,126
Aug.	992	1,056	1,073	1,223	1,010	1,086	n.a.
Sept.	940	1,104	1,062	1,198	964	1,000	n.a.
Oct.	976	1,012	1,136	1,176	1,125	1,082	n.a.
Nov.	787	856	864	985	987	921	n.a.
Dec.	579	605	750	729	642	682	n.a.

n.a. — not available

Trade

Canada's position in international trade in cement has undergone a major change during the past 25 years. During the 1950s, production capacity remained less than the peak demand for cement. It may be that this was a conscious attempt by the single large Canadian producer to maintain reasonable profits in the long run by avoiding situations of low capacity utilization in slack periods. One consequence of this was that periods of high demand gave rise to substantial imports of cement. This strategy appears similar to that of Canadian primary steel producers. The imported cement of the 1950s reached levels high enough to interest foreign suppliers in becoming more firmly established in the growing Canadian market, and soon led to Belgian, Swiss and French investment in Canadian production facilities.

Since the early 1960s, intense competition among the several Canadian cement companies caused capacity to exceed peak demand and, to relieve this, the Canadian companies now have well-established exports to nearby American markets and this trend is growing. These export sales have not alleviated the demand fluctuations experienced by Canadian cement producers, because fluctuations in demand in the U.S. and Canada are frequently in phase.

Changes in Canada's trade position are shown in the following table:

CANADA, PORTLAND CEMENT PRODUCTION, TRADE AND CONSUMPTION

Year	Production (short tons)[1]	Exports (short tons)	Imports (short tons)	Apparent consumption (short tons)[2]
1950	2,929,920	4,185	242,588	3,168,224
1951	2,976,367	453	407,300	3,383,214
1952	3,241,095	754	509,947	3,750,288
1953	3,891,708	2,577	434,487	4,323,618
1954	3,926,559	21,638	401,135	4,306,056
1955	4,404,480	168,907	517,890	4,753,563
1956	5,021,683	124,655	599,624	5,496,741
1957	6,049,098	338,316	92,380	5,803,162
1958	6,153,521	141,250	41,555	6,053,726
1959	6,284,486	303,126	29,256	6,010,616
1960	5,787,225	181,117	22,478	5,628,586
1961	6,205,948	249,377	29,217	5,985,788
1962	6,878,729	219,164	26,525	6,686,090
1963	7,013,662	272,803	31,579	6,772,438
1964	7,847,384	297,669	32,680	7,582,395
1965	8,427,702	334,887	37,619	8,130,434
1966	8,930,552	407,395	50,615	8,573,772
1967	7,994,954	328,018	44,118	7,711,054
1968	8,165,805	366,506	51,500	7,850,799
1969	8,250,032	634,209	53,396	7,669,220
1970	7,945,915	66,521	97,191	7,476,585
1971	9,065,915	887,846	55,874	8,243,943
1972	10,038,617	1,299,329	43,372	8,782,660
1973	11,125,738	2,000,000 est.	128,656	9,800,000
1974	11,308,000	1,800,000 est.	277,011	10,300,000
1975	10,984,655	1,800,000 est.	472,490	9,700,000
1976	10,503,453	1,500,000 est.	362,710	9,400,000
1977[3]	4,543,713			

[1]*Producers' shipments plus quantities used by producers.*
[2]*Production plus imports less exports.*
[3]*January – June 1977.*
Source: Statistics Canada 44-204.

Canada's 1976 exports of 1,500,000 tons of cement and clinker* had an f.o.b. producer value of approximately $36 million, most of it sold from Quebec and Ontario plants to nearby American markets. The large surplus capacity in Quebec coupled with an intensive sales effort should result in increased sales from this province to northeastern U.S. markets.

Most Canadian sales to the U.S. have been to areas close to Ontario and Quebec producers and accessible by rail, highway truck and canal vessel. Prices in these areas have not been undercut by cement imported into the U.S. from overseas.

Among world cement producers there is a common problem of maintaining a high rate of capacity utilization. Particularly at times of low domestic demand this forces operators to seek export sales. Although world producers avoid price-cutting in their domestic markets because the major part of their production must be priced as far as possible on a profit making basis, the smaller quantities offered for export can be priced on a basis of variable costs plus contribution to overhead. Prices of cement for trans-oceanic trade appear to reflect this.

Low price levels, characteristic of most world exports of cement coupled with the fact that Canadian plants are not on tidewater, make world export markets unattractive at present to Canadian producers.

On the other hand, plants in the Canadian Atlantic Provinces appear vulnerable to import competition. However, the small size of that market probably makes it unattractive to foreigners and expensive to service.

*Clinker is an intermediate, nodular form which, after the addition of 3 to 5 per cent gypsum and then grinding, becomes portland cement.

The Canadian success in selling cement in the U.S. during the past 10 years is symptomatic of weakness in the American industry. American imports from all countries, including France, Norway, Spain, Britain and Canada, reached a peak of 6.7 million tons in 1973 and have dropped steadily to 3.1 million tons in 1976. Most of this was destined to states along the Atlantic seaboard. American companies had been financially weakened over many years leading to a chronic lack of funds which prevented these companies from modernizing, with the result that they were not able to keep up with trends in more efficient processes and larger equipment. Cost performance in comparison with foreign competitors consequently suffered. During the latter part of this 10-year period the industry also was faced with new requirements to invest in environmental control equipment. At this crucial time temporary price controls were established, limiting revenue when the market could have accepted price increases. During this period also, many American producing plants were owned by large industrial conglomerates in which cement production was only one of their many activities. Accordingly, general management decisions were made by individuals with no particular interest or expertise in the cement industry. As a result of these adverse factors,* the American cement industry by 1973 had high debt, old and inefficient plants, and was losing ground rapidly to imports. A number of American plants were permanently closed.

In contrast, Canada during this period was served by modern plants, operated to a great extent by corporations specializing in cement. The growth of the Canadian market, the replacement of imports and the growth of exports gave a high rate of growth to the industry. Under these circumstances production facilities were continually being established in Canada and, as a result, the most modern technological advances (with energy saving features) were incorporated and large scale equipment was installed. Prices were sufficient to provide the necessary funds for investment in new plants and for environmental control expenditures.

At present in the American market, new efficient, large cement plants are being built by subsidiaries of European companies (e.g. Lafarge) specializing in cement production. Domestic producers are also recovering, their oldest plant having been retired.

In the next three to five years, Canada's exports of cement and cement clinker are likely to continue to increase, because two new cement kilns are based partly on long-term export contracts. In one of these arrangements, Lake Ontario Cement has begun to supply clinker by laker vessel to a plant in the state of Michigan. In the other, a new Genstar plant near Vancouver will soon be sending, by ocean vessel, substantial quantities of clinker to Kaiser Cement in the Pacific northwestern American states.

Canada's medium to long-term exports may peak at 2.8 to 3.0 million tons in about three years from now, with perhaps a gradual decline in exports later as the domestic market grows to use more of the surplus capacity now in place in Ontario and Quebec, and soon to be in place in British Columbia. The rapid growth of production capacity of the period 1955 to 1978, based on domestic market growth, replacement of imports, and establishment of exports to the U.S., will probably revert to a growth rate based on domestic construction activity minus the loss of some export sales. Canadian exports may fare better than this forecast if the aggressive selling efforts of Canadian producers continues to be as strong as it has in the past several years. A negative factor is the American anti-dumping investigation of imports of portland cement from Canada now underway.

During the 1955–1976 period of strong growth and modernization, and of superior external trade performance, the Canadian cement industry has been relatively free from government involvement. There has been practically no subsidization by either the federal or provincial governments. Neither Canada nor the U.S. maintain tariff protection on grey portland cement or clinker, which are the only forms of cement produced in Canada. There are tariffs in both countries on white portland cement, a minor product in terms of demand. The U.S. "Buy America" provisions may, however, inhibit some sales of Canadian cement for use in American public projects. Tariffs and nontariff barriers of other countries are of little current interest to the Canadian cement industry.

Trade in Concrete Products

Prestressed and precast concrete building components are being exported from Canada to contiguous American districts. Exports have been from the Toronto-Niagara district to New York State

*An alternative view is that conglomerates took control of cement companies in order to obtain their heavy cash flow for financing of embryonic high technology activities.

and to Ohio and from Saint John, N.B., to Maine and Massachusetts. It is believed that there are practically no imports of concrete products. U.S. tariff is 7½ per cent for most concrete products, except decorated panels, at 13½ per cent. Canadian tariff on concrete products is 12½ per cent but Canadian producers would prefer free trade with the U.S. In the case of prestressed concrete railway ties, the two Canadian companies are making strong export efforts. No trade in other concrete products can be anticipated with other countries because of transportation costs, so trade barriers are of no significance.

Competition

Pricing strategy in the cement business has undergone a long-term evolution from the severe price competition and business failures of the period 1890 to 1909, the merger of 1909 which left Canada Cement as the dominant supplier with stable base-point pricing during the period 1909 to the 1950s, the entry of new producers in the 1950s who initiated some price competition through transportation rebates on customer pickups; and the later stabilization of pricing prohibiting customer pickups and arranging for a common trucking service.

As pricing of cement stabilized during the 1950s, inter-company competition began to take the form of buying out the largest customers to ensure that a cement producer would retain its share of the market. Since that time most of the sizeable ready-mix companies, and some of the concrete products operations, have been purchased by the cement companies. Price competition has shifted from cement to ready-mix concrete. Some independent companies are considering abandoning the ready-mix business because of severe price competition. While the initiative for vertical integration came from the cement companies until about 1970, more recently the initiative appears to have shifted to prospective sellers as their profitability has been poor.

The Canadian price of cement has compared favourably with prices in other countries, as shown below. Prices are in Canadian dollars per metric ton, f.o.b. production plant, as reported in November, 1974.

	BAGS	*BULK*
Austria	$36.84	$
Belgium	32.65	
Canada	38.00	30.00 Tax Inc.
Denmark	43.66	
Finland		32.31
France		28.09
West Germany		40.10
Greece	31.38	
Italy		17.86
Netherlands		29.34
Norway		38.36
Portugal		23.94
Spain		19.62
Sweden		36.96
United Kingdom		27.76
United States	45.00	36.00 Tax Incl.

The above data indicate that Canadian prices are reasonable in world terms. There is a spread of prices within any one country as customers remote from production points must pay for higher costs of distribution and isolated areas served by small plants have prices reflecting higher costs of production.

The cement sector has been slightly less profitable, and carries a heavier burden of debt, than either the steel industry or the manufacturing industry as a whole, as illustrated below.

Net income as a percentage of equity, 1965–1975 composite weighted averages:

Four largest cement companies	8.4%
Three largest steel companies	10.9%
Canadian manufacturing industry	9.5%
Long-term debt/equity ratio, 1964–1975 composite weighted averages:	
Four largest cement companies	37/63%
Three largest steel companies	20/80%
Canadian manufacturing industry	26/74%

The above evidence indicates that price levels for cement and concrete have not been excessive since profits have been modest and the industry, although long-established, has not been able to retire its debt to the same extent as other industries.

Prices have been adequate, however, to generate sufficient cash flow to sustain the steady expansion of the major nationwide companies. On the other hand, local prices of ready-mix concrete and prestressed concrete have often been too low to support the business of local independent firms, leading the owners to offer to sell their business to cement companies.

Competing materials such as aluminum, steel, fibreglass, wood, stone and clay products assist in keeping local cement prices at reasonable levels. This competition from alternative materials is particularly effective in Canada where such materials are comparatively low-cost. In contrast, these alternative materials are more expensive in Europe and as a result per capita consumption of cement is higher in Europe than in Canada,

Prices

Price variations within North America are shown in the table below:

Materials Prices f.o.b. metropolitan area

	Portland Cement $/ton	*Gravel 3/4-inch $/ton*	*Concrete Block $/block*	*R/M Concrete 3000 psi $/cu. yd*
Atlanta	41.50	3.50	0.39	26.00
Baltimore	36.50	4.00	0.37	30.10
Birmingham	40.46	2.50	0.40	30.25
Boston	42.00	6.00	0.40	29.70
Chicago	38.00	2.25	0.46	25.90
Cincinnati	40.18	2.70	0.33	29.65
Cleveland	41.65	6.40	0.37	27.65
Dallas	44.45	4.65	0.54	27.50
Denver	44.20	6.75	0.50	29.25
Detroit	36.00	4.50	0.52	27.30
Kansas City	43.80	6.00	0.49	29.50
Los Angeles	51.70	4.70	0.49	26.00
Minneapolis	46.28	6.15	0.45	29.00
New Orleans	44.10			27.35
New York	40.00	3.75	0.33	28.25
Philadelphia	39.00	4.20		28.00
Pittsburgh	42.06	7.90	0.42	33.85
St. Louis	43.94	6.95	0.44	26.30
San Francisco	54.10	6.99	0.65	29.00
Seattle	51.85	5.80	0.72	31.40
Montreal	45.11	3.50	0.45	33.45
Toronto	43.11	3.80	0.54	29.40

Source: Engineering News Record, June 9, 1977

Energy Consumption

Energy constitutes nearly 40 per cent of the manufacturing cost of cement, and consequently energy efficiency is a major concern to the industry. Even before the cost and availability of energy became economic issues of international importance, the cement industry had taken steps to become more efficient in its use of energy, in order to attain higher productivity and become more competitive in the market place. With the onset of the energy crisis, the cement industry has greatly extended measures aimed at conserving energy. Cement's nearly exclusive use is in concrete, in which it constitutes only 7 per cent to 15 per cent by weight, depending on the application. Therefore, even if concrete is heavily reinforced, it is less energy-intensive than alternative materials such as structural steel, aluminum, glass and asphalt.

SUMMARY

Since the cement and concrete industry depends upon demand for construction and also is capital intensive, fixed costs are difficult to meet during periods of low construction activity. Less fluctuation in demand for construction would benefit the industry and help to stabilize employment.

Land zoning regulations also affect the industry: they can restrict the availability of low-cost aggregate and limit sites for new cement plants.

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